

ITRON INC. / Spokane, Washington

Keeping A Watchful Eye On Utility Meters

By Peter Elstrom
Investor's Business Daily

In Worcester, Mass., a Commonwealth Gas Co. truck slowly picks its way through middle-class neighborhoods, zig-zagging through streets to hit every block. The driver occasionally pulls into a driveway, then quickly backs out.

Lost?

No, the driver is reading residential gas meters — without ever leaving his truck.

The technology, manufactured by Itron Inc., works like this: A device called an Encoder Receiver Transmitter unit, or ERT, sits on a gas meter and records consumption. When the truck passes by a home, a Data Command Unit (DCU) on board collects the consumption figures from the ERT via radio waves and stores the data. Once back at headquarters, the driver can download the information into a computer that compiles customer bills.

While Commonwealth Gas is ahead of most other utilities in installing such automated systems, others are beginning to follow because of the technology's benefits. These include more accurate meter readings, the elimination of consumption estimates and a reduction in labor expenses.

"The savings have been greater than what we anticipated," said Richard Johnston, vice president of operations at Commonwealth Gas, a subsidiary of Cambridge, Mass.-based Commonwealth Energy System. "We had a very large meter-reading workforce. Those jobs have been eliminated, as have the clerical and administrative jobs that supported them."

Such technology is helping to fuel financial results at Itron, which makes a full line of software and hardware to help utilities collect consumption data more efficiently.

Net income for the March 31 first quarter rose 85% to \$2.3 million, while earnings rose 63% to 18 cents a share, from 11 cents. Revenue increased 43% to \$36 million.

Shares of Itron, listed on the Nasdaq under the symbol ITRI, yesterday traded for about 26%.

"I think their positioning is excellent, the product is very good and there



Itron's Encoder Receiver Transmitter automatically reads electric meters. Itron also makes modules for gas and water meters.

really isn't anyone else who has a substantial installed base or is making a dent in the market," said Joseph Arsenio, a senior analyst at Hambrecht & Quist in San Francisco.

What's given Itron a head start in selling automatic meter-reading systems, or AMRs, is the company's existing relationship with utilities. Since the early 1980s, the company has been selling hand-held computers to gas, electric and water companies. The hand-held computers can't read meters from a distance, but they eliminate the need to write numbers on paper.

About 1,200 electric, gas and water utilities use Itron's hand-held systems worldwide, between 950 and 1,000 in the U.S. and Canada. The company estimates that 78% of the hand-held computers deployed by utilities in North America are Itron products.

That dominant market position, Itron executives say, offers a distinct competitive advantage.

"Anyone who wants to compete with us is going to have to develop that same level of credibility and reliability that

we already have with 1,200 utilities," said James Thompson, Itron's chief financial officer.

Moreover, demand for automatic meter readers is just beginning to bud.

There are about 234 million utility meters in North America. Industry experts anticipate each ERT — the device that sits on the meter to send signals over radio waves — will cost an average of \$50 each. That's a potential market of \$11.7 billion.

The percentage of meters that are now being read automatically is still small, about 2% of the total. But Itron appears to be maintaining its leading position. Of an estimated 5.5 million meter-reading devices shipped to utilities so far, four million of those have been Itron's ERTs. And many analysts predict a large percentage of meters will eventually be read automatically.

Itron is offering gradations of automatic meter-reading systems.

Commonwealth Gas has implemented a system in which all houses are outfitted with ERTs, which can be read automatically with a properly equipped vehicle.

There is a less expensive and less automated alternative, however. A utility could choose to install ERTs on just a dozen meters in a neighborhood, where the meter reader might have problems with dogs or accessibility. For this setup, an Itron radio device can be attached to the company's hand-held computers to communicate with the ERT.

The highest-technology solution is a fixed system. This includes a series of radio towers that can collect ERT signals and beam them back to a central computer. A fixed system eliminates the need for roaming vans and allows utilities to collect consumption information at any time.

A primary selling point for Itron is that once a utility buys ERTs for a handful of houses, the information can be collected by roaming vans or a fixed system.

"Our commitment to utilities is that we won't leave them with stranded assets," said Thompson. "That's why we built on the hand-held systems they had already invested in."

EXHIBIT II

AFFIDAVIT

City of Washington :

: **SS**

District of Columbia :

**I, THOMAS G. ADCOCK, P.E., having been first duly sworn, depose and state
as follows:**

1. I am a registered Professional Engineer in Washington, D.C. and the Director of Engineering for the firm of Lukas, McGowan, Nace and Gutierrez, Chartered.

2. I graduated from the United States Military Academy at West Point, New York in 1957 with a Bachelor of Science degree, and from the Massachusetts Institute of Technology, Cambridge, Massachusetts in 1963 with a degree of Masters of Science in Electrical Engineering. In addition, I have completed post-masters degree courses at New York University and George Washington University, and am a Senior Member of the Institute of Electrical and Electronic Engineers.

3. I am familiar with the Federal Communications Commission's ("FCC's") rules and since 1982 have prepared or supervised the preparation of the technical portions of hundreds of applications, engineering statements and other submissions filed with the FCC.

4. On behalf of an ad hoc coalition of natural gas distribution utilities ("Gas Utilities"), I have reviewed a copy of the Airtouch Teletrac ("Teletrac") Petition for

Partial Reconsideration and Clarification filed on April 24, 1995 in PR Docket No. 93-61. My comments are presented in the paragraphs below.

5. Teletrac and several other multilateration parties have submitted a petition for reconsideration with the FCC concerning the revised rules for Location Monitoring Service ("LMS") systems.

6. The Teletrac petition states that the LMS multilateration systems, as currently employed, do not meet the out-of-band emission attenuation requirements of Section 90.209(m) of the revised LMS rules. Teletrac describes the bandwidths to be allocated to multilateration LMS, coupled with the FCC's out-of-band emission requirements, as technically infeasible given the accuracy and capacity required for the services planned by the multilateration service providers.

7. In its petition, Teletrac requests a modification of the rules to allow for the more gradual roll-off for the required attenuation of out-of-band emissions for multilateration systems. Teletrac proposes two alternative roll-off attenuation formulas, one for wideband emissions and one for narrowband forward links. The revised rules allow a maximum of 30 Watts effective radiated power ("ERP") for multilateration wideband transmissions using bandwidths of 2.0 MHz, 5.75 MHz and 8.00 MHz. The revised rules allow a maximum of 300 Watts ERP in narrowband forward links using 0.25 MHz bandwidths.

8. The formulas proposed by Teletrac are based on emission limitation requirements contained in FCC Rule Sections 21.106(a)(2) pertaining to point-to-point microwave in the Domestic Public Fixed Radio Services (common carrier), Rule Sections 94.71(c)(2) and 94.71(c)(4) pertaining to Private Operational-Fixed Microwave Service ("OFS"), including point-to-point microwave and 900 MHz multiple

address service, and Rule Section 24.133(a) for narrowband Personal Communications Services ("PCS").

9. Teletrac's objections to the FCC's revised LMS rules should be considered in context of the following facts:

(a) The roll-off attenuation requirements now opposed by AirTouch were proposed by the FCC for both multilateration and non-multilaterational LMS systems in the initial Notice of Proposed Rule Making ("NPRM") for the 902-928 MHz band released on April 9, 1993 for use with 2 MHz, 6 MHz and 8 MHz bandwidths. Since April 1993, Teletrac and other multilateration parties have commented on the FCC's proposed roll-off attenuation requirements. For example, on August 12, 1994, considering multilateration services in a 6 MHz bandwidth, Teletrac proposed a different formula than it now proposes concerning the limitation of out-of-band emissions for multilateration transmissions (see Ex Parte Comments of AirTouch Teletrac dated August 14, 1994).

(b) Teletrac's recent petition does not assert that vehicle location cannot be accomplished using the proposed bandwidth coupled with the FCC's roll-off requirements. Instead Teletrac says that the existing multilateration systems cannot offer the services planned if these bandwidth and roll-off requirements are imposed. On October 19, 1994, Southwestern Bell Mobile Systems ("SBMS") filed a "Final Report" by Virginia Tech in this same docket which concluded, in part, that "the optimum bandwidth for resolving multi-path components, as important factors in determining location and maximizing the

rate of data transmission in an AVM system, is from 1 to 10 MHz" and "Only modest improvements are achieved with bandwidth increases above 1 MHz."

10. Based on the foregoing, it appears possible that Teletrac is more concerned about its ability to support two-way voice and/or other non-location services, than its ability to support location services under the FCC's out-of-band emission limitation requirements.

11. Teletrac's suggested out-of-band emission limitation requirements for wideband (2.0 - 5.75 - 8.00 MHz) emissions based on FCC Rule Sections 21.106(a)(2) and 94.71(c)(2) may be inappropriate for the 902-928 MHz band due to the following considerations:

(a) FCC Rule Sections 21.106(a)(2) and 94.71(c)(2) address the requirements for the attenuation of out-of-band emissions to protect networks consisting entirely of fixed facilities, as opposed to a mobile service such as LMS, and tighter standards are needed for mobile services to avoid harmful interference.

(b) The fixed point-to-point microwave systems employing the protection criteria of FCC Rule Sections 21.106(a)(2) and 94.71(c)(2) also require the coordination of emissions by every applicant with licensees, permittees and other applicants prior to application filing.

(c) The services regulated by FCC Rule Sections 21.106 and 94.71 use the radio frequency spectrum on a licensed basis, while the 902-928 MHz band is shared between licensed and lower powered unlicensed services, and tighter emission standards are needed to prevent harmful interference to bands shared by licensed and unlicensed facilities.

12. Teletrac's suggested out-of-band emission limitation requirements for narrowband emissions based on FCC Rules Sections 24.133(a) and 94.71(c)(4) do not appear to be unreasonable, but may be inappropriate for the 902-928 MHz band because services regulated by FCC Rule Sections 24.133 and 94.71 use the radio frequency spectrum on a licensed basis, while the 902-928 MHz band is shared between licensed and lower powered unlicensed services, and therefore requires tighter emission standards to avoid harmful interference.

13. Teletrac has not demonstrated why the FCC's rules for out-of-band emissions are unachievable, nor has it demonstrated why the new rules it proposes for out-of-band emissions provide greater public interest benefit than the rules adopted by the FCC.

14. I have reviewed the Comments on Petitions for Reconsideration to which this is attached. The statements contained herein are true and correct to the best of my knowledge and belief.

15. The foregoing statements of fact are true and correct to the best of my own personal knowledge and belief, and are proffered in good faith.

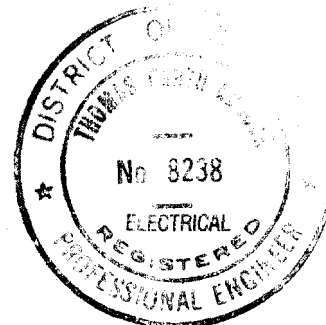


THOMAS G. ADCOCK, P.E.

Subscribed to and sworn to before me
this 24th day of May, 1995


Notary Public

My commission expires:



R. LOREN BRADON
NOTARY PUBLIC DISTRICT OF COLUMBIA
My Commission Expires October 31, 1997

CERTIFICATE OF SERVICE

I, Deirdre Coppage, a secretary in the law office of Lukas, McGowan, Nace & Gutierrez, Chartered, certify that I have, on this 24th day of May, 1995, placed in the United States mail, first class postage pre-paid, a copy of the foregoing Comments on Petitions for Reconsideration to the following:

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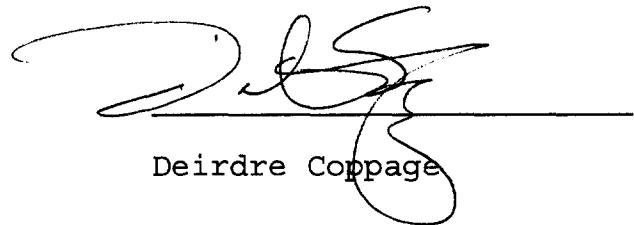
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* Via Hand Delivery